~ CONFERENCE PROGRAM ~

AQUIFER STORAGE RECOVERY VII

Florida – Conjunctive Use Challenges

Application of Science and Technology to Ground Water Management

Presented by

American Ground Water Trust

Ground Water Information ✯ Awareness ✯ Education

Wednesday, September 19th and
Thursday, September 20th, 2007

Holiday Inn Select - Orlando International Airport
Orlando, FL

Event Sponsors:

Exhibitors:

In-Situ, Inc.
Laboratory Data Consultants, Inc.
Water Resource Solutions
Golder Associates
ASR Systems
USGS

Day 1 Program - Wednesday, September 19th

8:30 – 8:45 **WELCOME**

8:45 – 9:15 ***Recommendations from the National Academy of Sciences Committee on Sustainable Underground Sources of Recoverable Water***
Jon Arthur, Assistant State Geologist, FDEP/Florida Geological Survey, Tallahassee, FL

9:15 – 9:45 ***St. Johns River WMD and Central Florida Cooperators Planning for Future Water Supply Alternatives Through ASR Construction and Testing Program***
Leslie Turner, Lee Wiseman, and Jason Mills, CDM, Orlando, FL; Doug Munch, St Johns' River WMD; and Glenn Forrest, Glenn E. Forrest, Inc, Winter Park, FL

9:45 – 10:15

Keynote Presenter

Eve Kuniansky

Southeastern Region Ground Water Specialist
United States Geological Survey, Norcross, Georgia

"Tools and Applications for Optimization of Ground Water Resources"

10:15 –10:30 **BREAK / EXHIBITS**

10:30 – 11:00 ***Aquifer Storage Recovery in San Antonio, Texas***
James Dwyer, CH2M Hill, Austin, TX and Adam Eddy, San Antonio Water System, San Antonio, TX

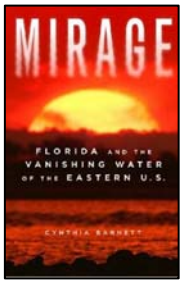
11:00 – 11:30 ***Operational Optimization – An assessment of ASR recovery efficiencies***
Frank Winslow, CDM, Fort Myers, FL

11:30 – 12:30

Guest Presenter: **Cynthia Barnett**
Journalist & Author, Gainesville, FL

(Attendee at the Tampa ASR 5 Program)

Florida and the Vanishing Waters of the Eastern US



12:30 – 1:45 **LUNCH**

Day 1 Program - Wednesday, September 19th (continued)

1:45 – 2:15 ***Are all USDWs really potential Underground Sources of Drinking Water?***
Mark McNeal, President, ASRUS, LLC, Tampa, FL

2:15 – 2:45 ***The View of the Regulated Community on how ASR Arsenic Issues have been addressed by the Florida DEP – History and Case Studies***
John Powers, Senior Hydrogeologist, CH2M Hill, Tampa, FL

2:45 – 3:15 ***Innovative conjunctive use solution to West Palm Beach water supply shortage***
Marjorie Craig, Director of Public Utilities and Kenny Blakeney, Water Plant Manager, City of West Palm Beach, West Palm Beach, FL

3:15 – 3:45 **BREAK / EXHIBITS**

3:45 – 4:15 ***Arsenic Attenuation during Successive Cycle Tests: Influence of disinfection method on arsenic mobility***
June Mirecki, Hydrogeochemist, US Army Corps of Engineers, Jacksonville, FL; Mark McNeal, President, ASRUS, LLC, Tampa, FL and John Powers, Senior Hydrogeologist, CH2M Hill, Tampa, FL

4:15 – 4:45 ***Achieving Water Supply Sustainability with ASR***
David Pyne, President, ASR Systems, Gainesville, FL

4:45 – 6:30 **RECEPTION** (Cash bar, exhibits)

Day 2 Program - Thursday, September 20th

8:30 – 8:45 ***Summary of Wednesday's presentations & discussion***

8:45 – 9:15 ***Water volumes and water quality in aquifers recharged by rapid infiltration basins at the Water Conserv II Project, Orange County***
David MacIntyre, Vice President, Parsons-Brinckerhoff, Orlando, FL

9:15 – 9:45 ***ASR for Lake Okeechobee and Estuary Restoration (Taylor Creek/L-63N Canal ASR system)***
Raphael Frias, Engineer, Black & Veach, Tampa FL

9:45 – 10:15 ***Engineered aquatic filter barrier systems - technical characteristics - actual and potential applications***
Andy McCusker, Vice President-Technical Services, Gunderboom, Inc., Scarborough, ME

10:15 – 10:45 **BREAK / EXHIBITS**

10:45 – 11:15 ***The Effectiveness of Bank Filtration as water pre-treatment for ASR injection***
Phil Brown, Project Manager and Mark Wirganowicz, Senior Hydrogeologist, Golder Associates, Lake Oswego, OR; Chris Brown, Senior Consultant, Golder Associates, Jacksonville, FL

Day 2 Program - Thursday, September 20th (continued)

11:15 – 11:45 ***Application of membrane degasification technology for removing oxygen from ASR source water***
Patrick McMurray, Sales & Technical Service, Membrana - Celgard LLC, Charlotte, NC

11:45 – 12:15 ***Oxygen removal processes for ASR injectant - fundamentals, applicability, and costs***
Chance Lauderdale, Engineer, Carollo Engineers, Sarasota, FL

12:15 -1:15 **LUNCH**

1:15 – 1:45 ***Status of ASR recharge water de-gassing pilot studies at Bradenton***
Don Ellison, Senior Professional Geologist, South West Florida WMD, Brooksville, FL

1:45 – 2:15 ***A typical ASR well can cost a million dollars - Where does the money go? Do they have to cost so much?***
Stuart Anderson, President, Applied Drilling Engineering, Tampa, FL

2:15 – 2:45 ***Conjunctive use of surface water and ground water in Cape Coral***
Gordon Kennedy, Principal Hydrogeologist, MWH Americas, Cape Coral, FL and
George Reilly, Utilities Manager, City of Cape Coral, Cape Coral, FL

2:45 – 3:15 ***Update report from EPA national working group on artificial recharge/ ASR EPA Region 4 (invited)***

3:15 – 4:00 ***Monitoring, Cycle Testing, and Permitting of ASR Systems - A Regulatory Perspective***
Richard Deuerling, Jr, UIC Program Manager, FL DEP, Tallahassee FL

4:00 **CLOSING REMARKS AND ADJOURN**

Eve L. Kuniansky

Southeastern Region Ground-Water Specialist for the U.S. Geological Survey

Since 1998, Eve L. Kuniansky currently serves as the Southeastern Region Ground-Water Specialist for the U.S. Geological Survey. She earned a degree in physics from Franklin and Marshall College in 1978 and BCE '81, with highest honor, and MSCE '82 from Georgia Tech. She has over 25 years experience in hydrology, geohydrology, and hydraulics. In 1983, she began a career with the U.S. Geological Survey in Atlanta, Georgia assisting in ground-water flow simulations. Later she transferred to Baton Rouge, Louisiana and gained experience in surface-water modeling, project management, borehole geophysics, geologic mapping, field data collection, and ground-water flow simulation of near shore sediments. In 1986, she transferred to Austin, Texas and developed finite-element modeling software and interfaces of the finite-element model with Geographic Information System (GIS) in order to simulate ground-water flow in a karst system. In November 1994, she was appointed the Texas District Ground-Water Specialist, providing technical guidance on ground-water projects in the District and was involved in technical assistance to the U. S. Air Force and Navy in their remediation efforts at sites in Texas. In 1998, she was promoted to Southeastern Region Ground-Water Specialist of the USGS, Norcross, Georgia. In this position she provides technical assistance to ground-water projects throughout the southeastern USA, Puerto Rico, and the Virgin Islands.

Because of her expertise in numerical simulation, GIS, and geohydrology, she was selected for short term international assignments by the United Nations Development Program for assistance in China in 1996; a U.S. Agency for International Development Databanks workshop in Tiberias Israel, in 1997 and teaching an introduction to ground-water modeling class in Nicosia, Cyprus in 2002. Along with her normal job she also provided assistance to the International Atomic Energy Agency and Ethiopian Science and Technology Commission with the development and implementation of a National Ground-Water Resources Assessment Program for Ethiopia 2000-05.

Cynthia Barnett

Reporter, and author of *Mirage: Florida and the Vanishing Water of the Eastern U.S.*

Florida's parched swamps and sprawling subdivisions set the stage for a look at water crisis throughout the American East Mirage is a compelling and timely portrait of the use and abuse of freshwater in an era of rapidly vanishing natural resources.

Cynthia Barnett has been a reporter and editor at newspapers and magazines for twenty years. Since 1998, she's written for Florida Trend magazine, where she covers investigative, environmental, public policy and business stories. Her numerous awards include three investigative-reporting prizes. She attended the ASR5 Conference in Tampa and refers to it in her book.

How did a state once three-fourths submerged manage to drain itself so dry that it no longer has enough freshwater for people and nature? And has Florida learned from its past mistakes, or those made in the American west, where water has been over-allocated to the point when even some legal users are left with none during times of drought?

Journalist Cynthia Barnett takes aim at these and other questions in her new book, Mirage: Florida and the Vanishing Water of the Eastern U.S. Part investigative reporting, part environmental history, Mirage tells how the eastern half of the nation – historically so wet that early settlers predicted it would never even need irrigation – has squandered so much of its abundant fresh water that it now faces shortages and conflicts once unique to the arid West. Florida's parched swamps and super-sized subdivisions set the stage for a look at water-supply issues facing America and the globe: water wars, the politics of development, inequities in the price of water, the bottled-water industry, privatization, and new-water-supply schemes.

Barnett, 41, is a long-time staff writer at Florida Trend magazine, where she covers investigative, environmental, public policy and business stories. Among numerous journalism awards, she's won three investigative-reporting prizes in the Green Eyeshades, which recognize the best journalism in 11 southeastern states. She earned a bachelor's degree in journalism and master's in American history with a specialization in environmental history, both from the University of Florida. In 2004, she was awarded a Knight-Wallace Fellowship at the University of Michigan, where she spent a year studying freshwater supply. She lives in Gainesville with her husband, science writer Aaron Hoover, and their two young children, who are sixth-generation Floridians.

"Barnett finds that successful allocation agreements are rare, lessons learned are quickly forgotten and an ever-growing population spells more trouble to come," Publisher's Weekly wrote in a starred review. Mirage "should become vital reading for citizens and policymakers as global concerns over water scarcity grow."